



EFFECT OF AEROBIC TRAINING ON PERCENTAGE OF BODY FAT AND RESTING HEART RATE AMONG COLLEGE OBESE WOMEN

V. V. A. Valarmathi^a and R. Muthu Eleckuvan^{b,*}

^aDepartment of Physical Education, Manonmaniam Sundaranar University, Tirunelveli-627012, Tamilnadu, India.

^bDepartment of Physical Education and Sports Sciences, Annamalai University, Chidambaram- 608002, Tamilnadu, India

*Corresponding Author Ph: +(91) - 9150030029; Email: drme77@gmail.com

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ABSTRACT

The aim of the present research was to determine the effect of aerobic training on percentage body fat and resting heart rate among obese women. For this purpose twenty (20) female obese samples (age 17-25) were selected. The subjects were given endurance training for only one session in the morning between 6 am and 7 am for three alternate days a week for six weeks. To analyse the collected data, "t" ratio was used at 0.05 level of confidence. The results showed that there was a significant decrease in the percentage of body fat but no changes is elicited on resting heart rate. It was concluded that the aerobic training is widely believed to induce changes in the percentage body fat among obese women.

Keywords: Aerobic training, Percentage body fat, Resting heart rate, Obesity.

Introduction

Exercise is most important for every living being; in other words, we can also say that physical inactivity results in several types of diseases in the body. It mostly causes Cardio-vascular diseases. So, if we maintain and keep balance between our diets and regular exercise, it will result the best. Morning walk is often suggested by the doctors. It is also suggested by the experts that a human body needs a five day exercise in a week, irrespective of what age he/she belongs.

Regular exercise not only keeps our body fit but it also helps in maintaining

our mind fresh for a longer period of time. Our mind will not feel tired if we do the regular exercises. It also increases the blood circulation of the body and prepares us for the hard work, all day long. Regular exercise also can prevent chronic diseases and other health problems related to lungs and heart. Regular exercises help to strengthen the heart. The muscle mass can increase and the weight can be controlled.

World is experiencing a health fitness revolution. Exercise clinics, health centers, natural food stores, diets of every kind and "do-it-yourself" exercise programs are very popular. Physical activity is an important



ingredient in the quality of life because it increases energy and promotes physical, mental and physiological well-being in addition to conferring worthy health habits. Aerobic exercises produce less weight loss compared to caloric restriction programs. Physical activity is a key component of energy expenditure. Changes in physical activity are particularly important in the pathogenesis of overweight and in its treatment. This is especially true for long-term maintenance of weight loss when it involves the use of one or more large muscle groups and raises the heart rate. Rajarathi, Pitchaiappa and Chittibabu [1] identified that when aerobic training

Methodology

Subjects and variables

20 Obese college women were selected as subjects, who were 17-25 years old and had no physical limitations that precluded training. Subjects were not receiving pharmacological treatment known to affect blood pressure (BP), BP regulating mechanisms or cardio-vascular risk factors. The variables selected for this study were percentage of body fat and resting heart rate. Skinfold caliper and Omron heart rate monitor was used for measuring selected dependent variables.

Training

The training programmes were conducted on alternate days for 6 weeks and only one session in the morning between 6 am and 7 am. The brisk walking intensities were increased gradually from 20 to 40 minutes, excluding warming-up and cooling down.

Experimental Session

was combined with resistance training which displayed greater improvement in aerobic capacity of obese adolescent school children. However, a contrast result was produced when resistance combined with yogic practices. Numerous health-related benefits have been observed in overweight and obese people who participate in different types of exercise training programs, even in those without significant weight loss [2]. Therefore, the purpose of the study was to investigate the effect of aerobic training on percentage of body fat and resting heart rate among obese women.

All measurements were performed at the same time of the day from 6am to 8am. Participants were asked to come without breakfast. Pre test data were collected before the training programme and post test data were collected after the training programme. The data on percentage of body fat was collected using skin fold caliper technique in three sites (triceps, suprailliac and abdominal) of the body. The measurement was taken only on the right side of the body. The resting heart rate was measured using radial pulse. The design for the study was single group experimental design.

Statistical Analysis

The significance of the difference among the means of training group was found by pre test and post test. Statistical technique used for analyzing the data collected for the purpose of the study was t^o ratio. In all cases 0.05 level of confidence was fixed to test the hypothesis.



Results

The mean, standard deviation and „t“ ratio values on each dependent variable was analyzed separately and presented in table 1.

Table-1
Analysis of Pre-test and Post- test data on Percentage of body fat & resting heart rate

Variables	Test conditions	N	Mean	SD	‘t’
Percentage of body fat	Pre test	20	23.3835	2.2194	4.083*
	Post test	20	20.5015	2.3167	
Resting heart rate	Pre test	20	80.8000	8.9419	1.051
	Post test	20	77.3500	8.3746	

*Significant at 0.05 level.

Table-1 shows that mean of percentage of body fat before endurance training was 23.3835 and after endurance training was 20.5015. The „t“ ratio shows that there was a significant decrease in percentage of body fat after the endurance training. The obtained t value 4.083 is greater than the required table 2.09 for degrees of freedom 19. However, the mean of resting heart rate before endurance training as 80.8000 and after endurance training was 77.3500. The „t“ ratio shows that there was no significant change in resting heart rate after the endurance training. The obtained t value 1.051 is less than the required table 2.09 for degrees of freedom 19.

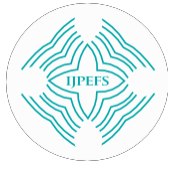
Discussion

The decrease in body fat percentage after the endurance training is in conformity with the studies of Narayani and Sudhan Paulraj [3] who concluded that the physical activity can influence body composition. The present study is also supported by the study of Cornelissen and

others [4] who determined the effect of aerobic training intensity on resting, exercise and post-exercise blood pressure, heart rate and heart rate variability. The result showed the effects of aerobic training on HR at rest, during exercise and recovery after exercise were more pronounced with high intensity than with low intensity. Carter *et al.* [5] showed that regular physical activity has been shown to lower resting heart rate to improve heart rate recovery after acute exercise. The current results showed statistically no significant difference on resting heart rate after the aerobic training compared with the pre training rest values. Result of the present study was in line with the study of Carter *et al.* [5].

Conclusion

It may be concluded from the result of the study that the percentage of body fat and resting heart rate of the obese women had decreased after the endurance training of six weeks.



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